



**Armed Forces College of  
Medicine  
Anatomy department**



# **Front Of Thigh**

**By**

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# INTENDED LEARNING OBJECTIVES (ILO)



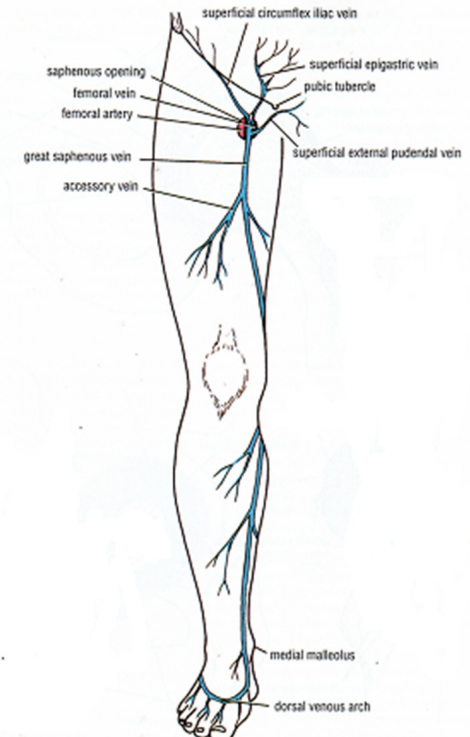
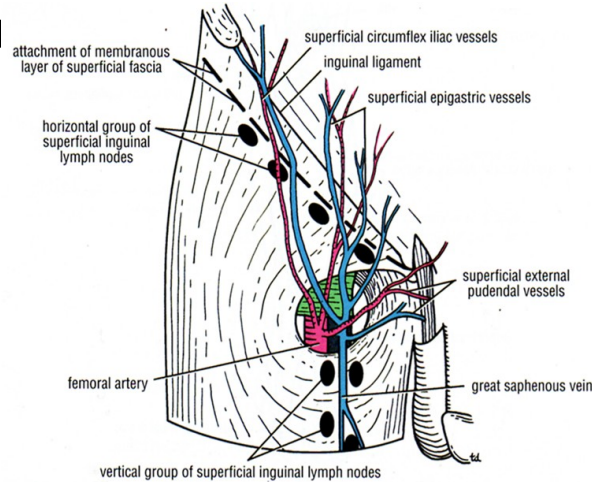
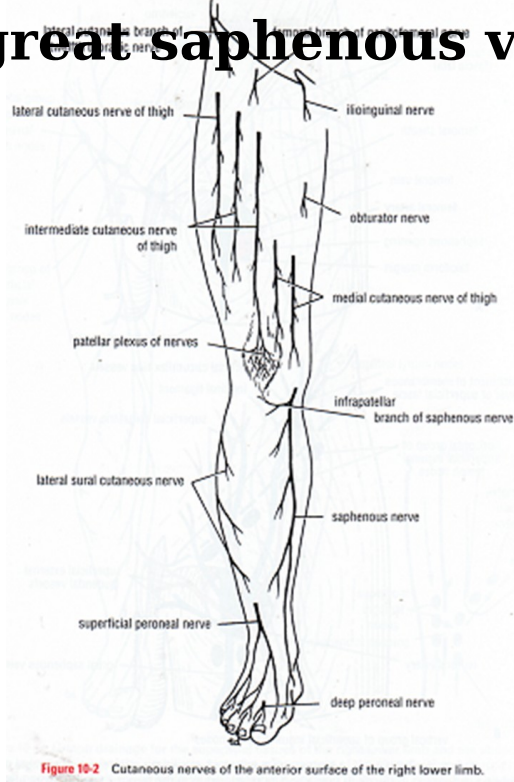
- By the end of this lecture the student will be able to:
  - 1- Describe the attachments and contents of superficial fascia of thigh
  - 2- Describe attachment of deep fascia
  - 3- Define site , shape , and structures piercing saphenous opening
  - 4- Describe attachment, muscle inserted and functions of iliotibial tract
  - 5- Describe attachment, action and nerve supply of muscles of the front of thigh.

# Fascia of front of thigh

# SUPERFICIAL FASCIA

## Contents of the superficial fascia:

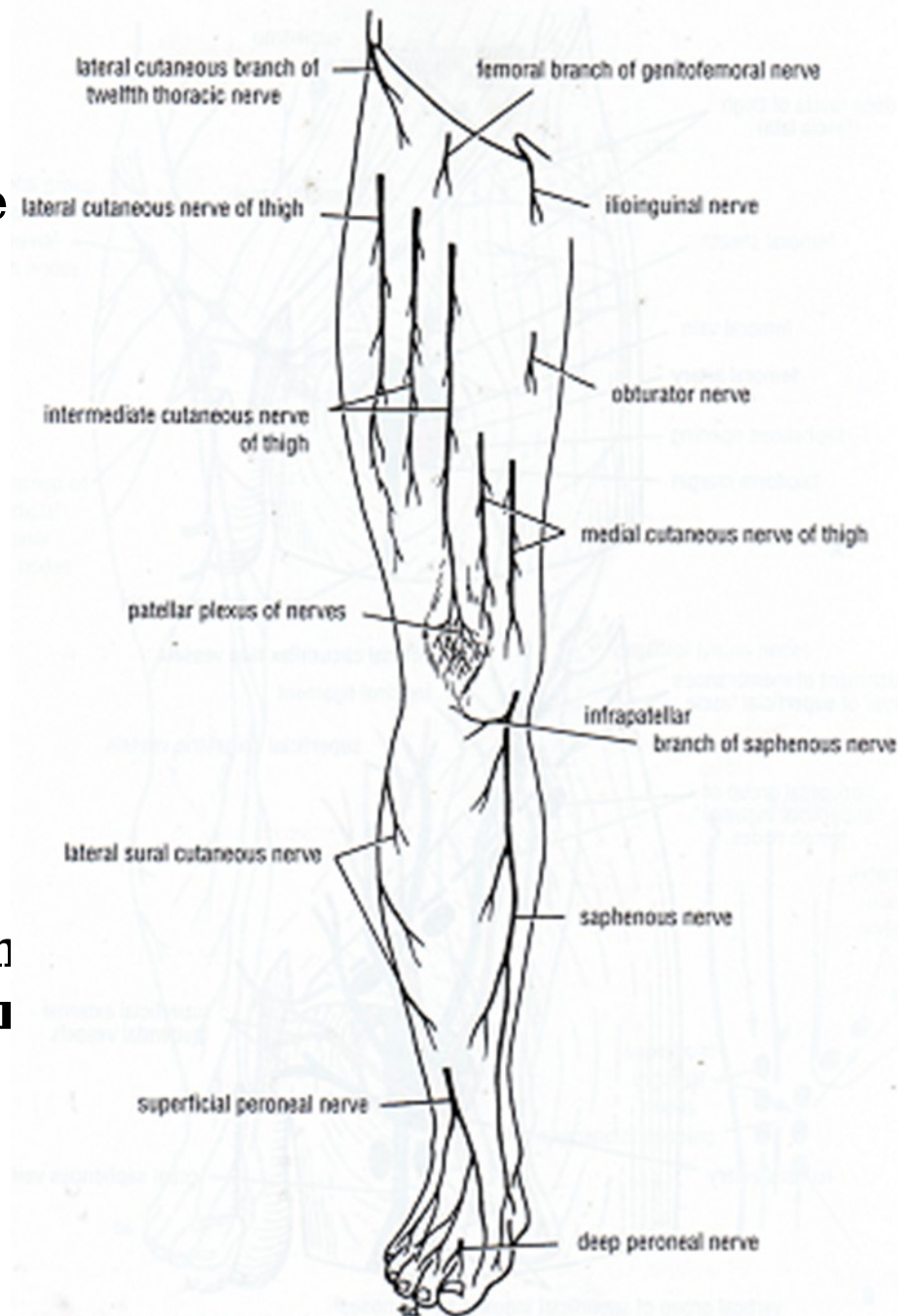
**1-Cutaneous nerves. 2-Cutaneous vessels 3- Upper part of great saphenous vein**



**4-Superficial inguinal lymph nodes.**

**1) Cutaneous nerves : the skin of the front and medial side of the thigh is supplied by:**

- 1-Ilioinguinal nerve**
- 2-Femoral branch of genitofemoral nerve**
- 3- lateral cutaneous nerve of the thigh**
- 4-Medial cutaneous nerve of the thigh**
- 5- Intermediate cutaneous nerve of the thigh**
- 6- A cutaneous branch from the anterior division of the obturator nerve**
- 7-Patellar plexus.**



**Figure 10-2** Cutaneous nerves of the anterior surface of the right lower limb.

## 2) Cutaneous vessels:

**Three superficial inguinal arteries** which are branches of the femoral artery arising just below the inguinal ligament passing in different directions.

**1-Superficial external pudendal artery:**

passes medially to supply the external genitalia.

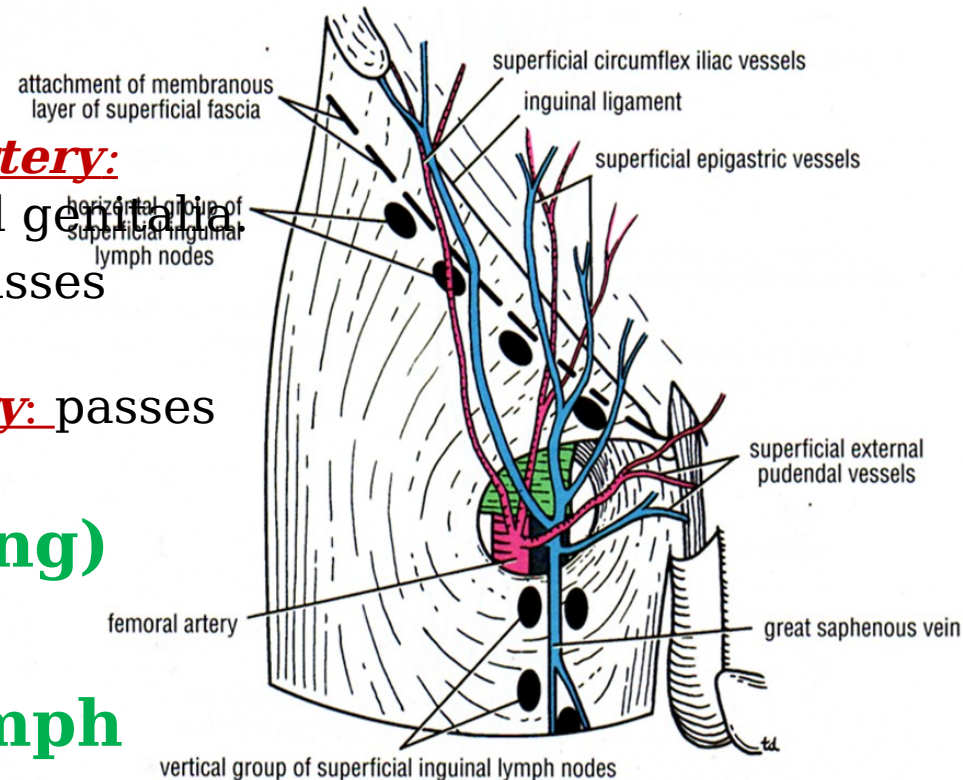
**2-Superficial epigastric artery:** passes upwards

**3-Superficial circumflex iliac artery:** passes upwards and laterally.

## 3) Upper part of great (long) saphenous vein

## 4) Superficial inguinal lymph

**nodes:** lie in the superficial fascia below the inguinal ligament. Arranged into 2 groups forming the shape of **letter T**.





## **Deep fascia (fascia lata) of the thigh:**

Fibrous tough and strong sheath surrounds completely the whole thigh like a stocking

**1- Thickened laterally**

**2- Its upper medial part is to form **iliotibial tract****

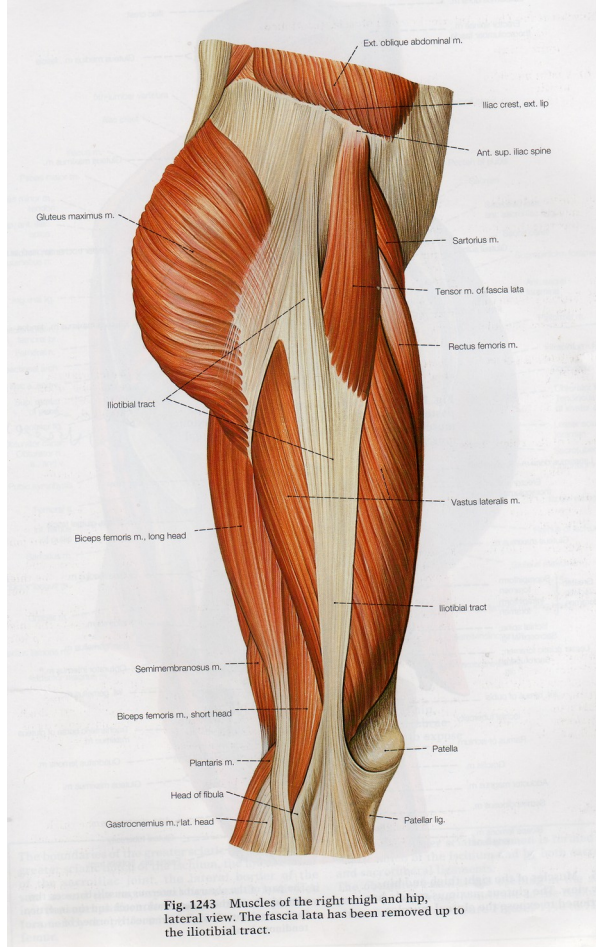
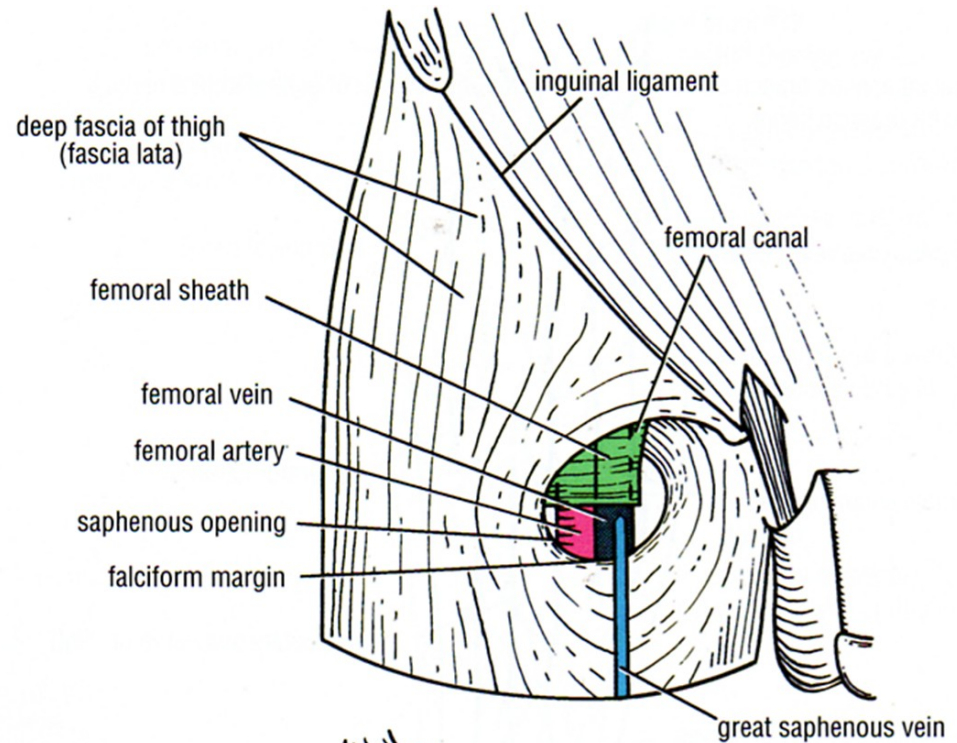


Fig. 1243 Muscles of the right thigh and hip, lateral view. The fascia lata has been removed up to the iliotibial tract.

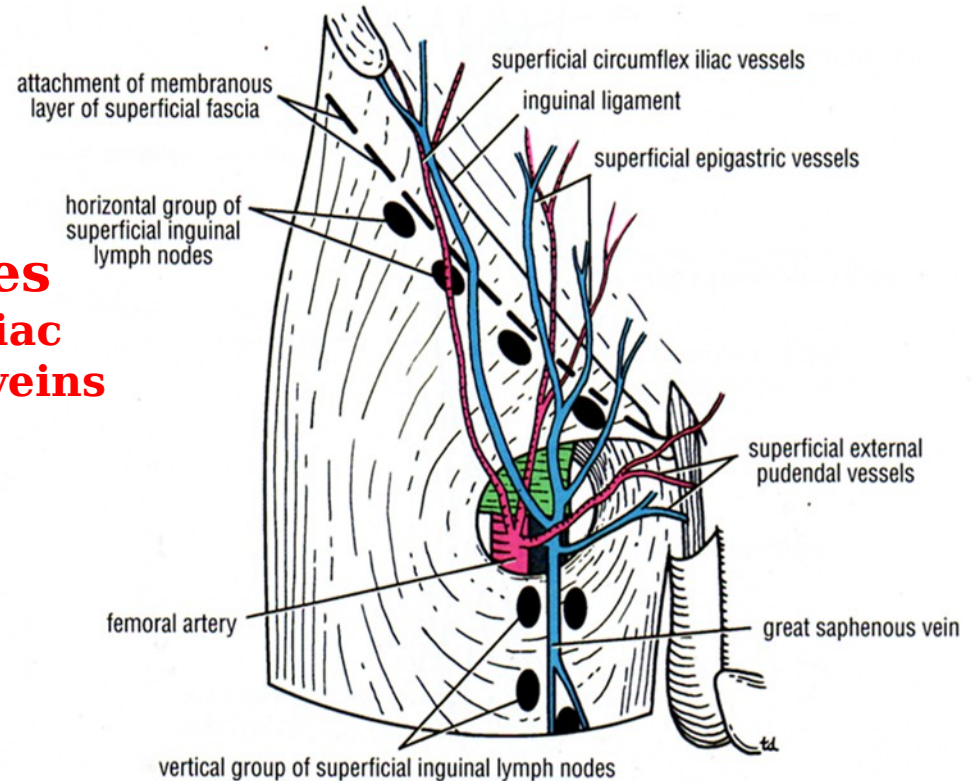




# **SAPHENOUS OPENING**

- An opening in deep fascia of front of thigh
- Site: about 4 Cm below and lateral to the pubic tubercle
- Closed by: The cribriform fascia which is perforated by:

1. Great saphenous vein
2. Superficial inguinal arteries (sup epigastric, sup. circumflex iliac and sup. external pudendal) (not veins since they end in saphenous v)
3. Lymphatics:



## **Iliotibial tract:**

A **thickened** band of fascia lata on the **lateral** side of thigh attached to:

**Above:** the tubercle of the iliac crest.

**Below:** lateral condyle of the tibia.

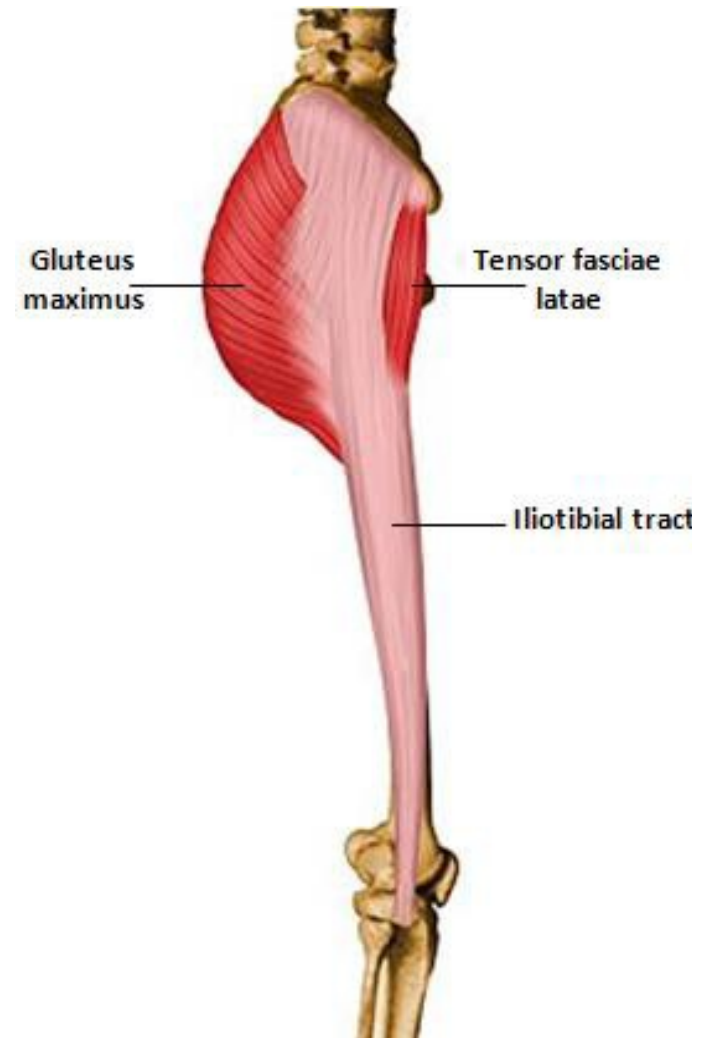
It receives the insertion of 2 muscles:

- tensor fasciae latae
- gluteus maximus (its superficial

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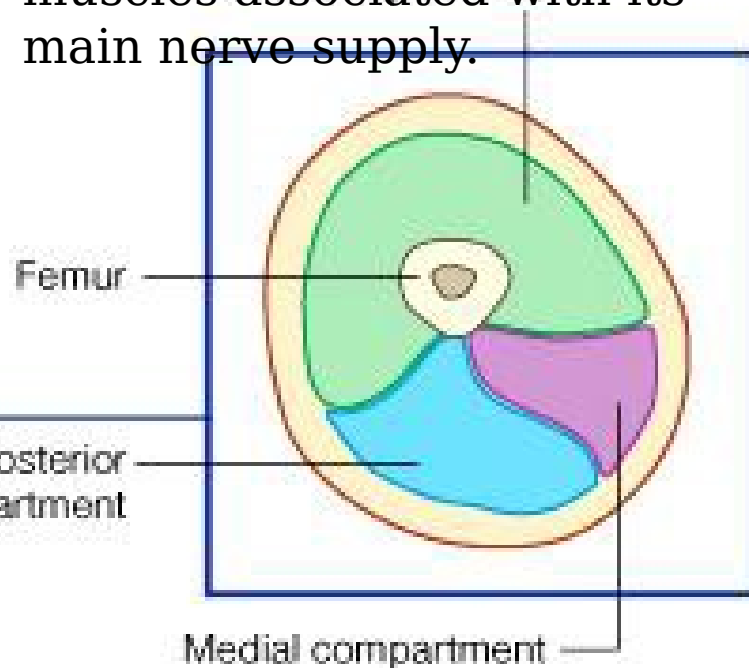
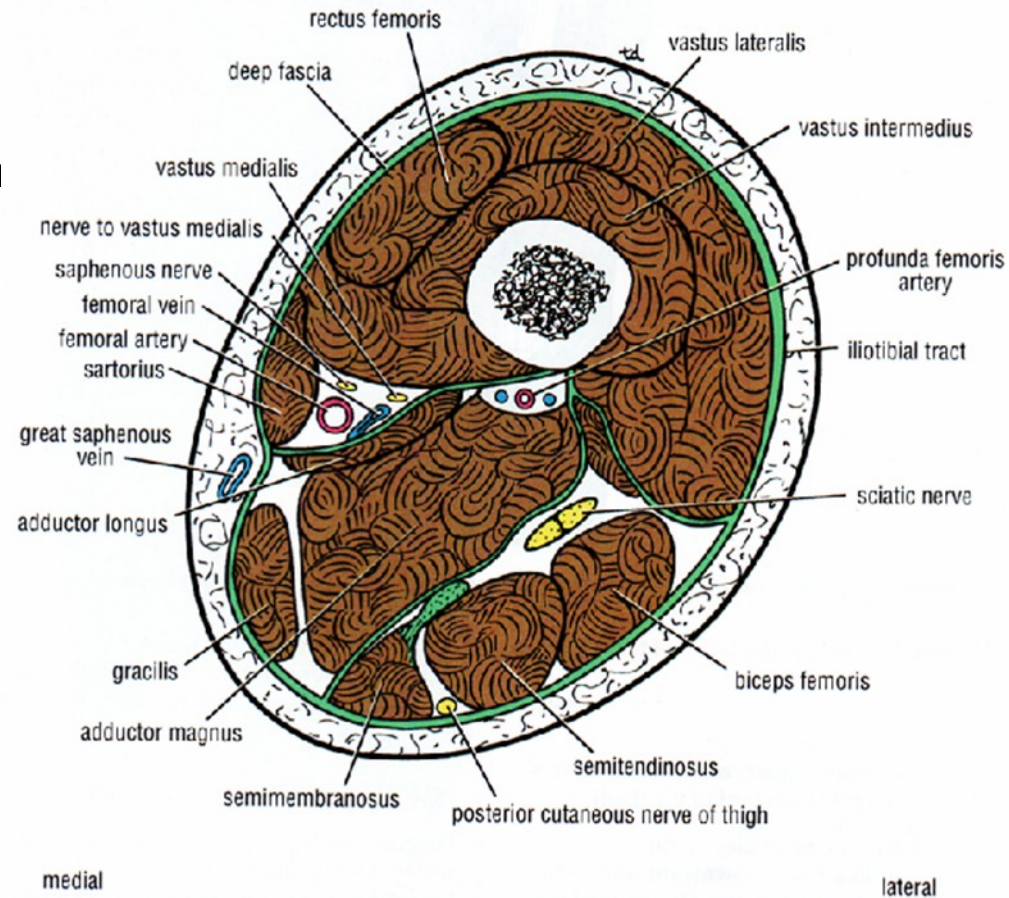
### □ **Function of iliotibial tract:**

- 1- stabilise the femur on the tibia
- 2- Helps in extension of the knee.



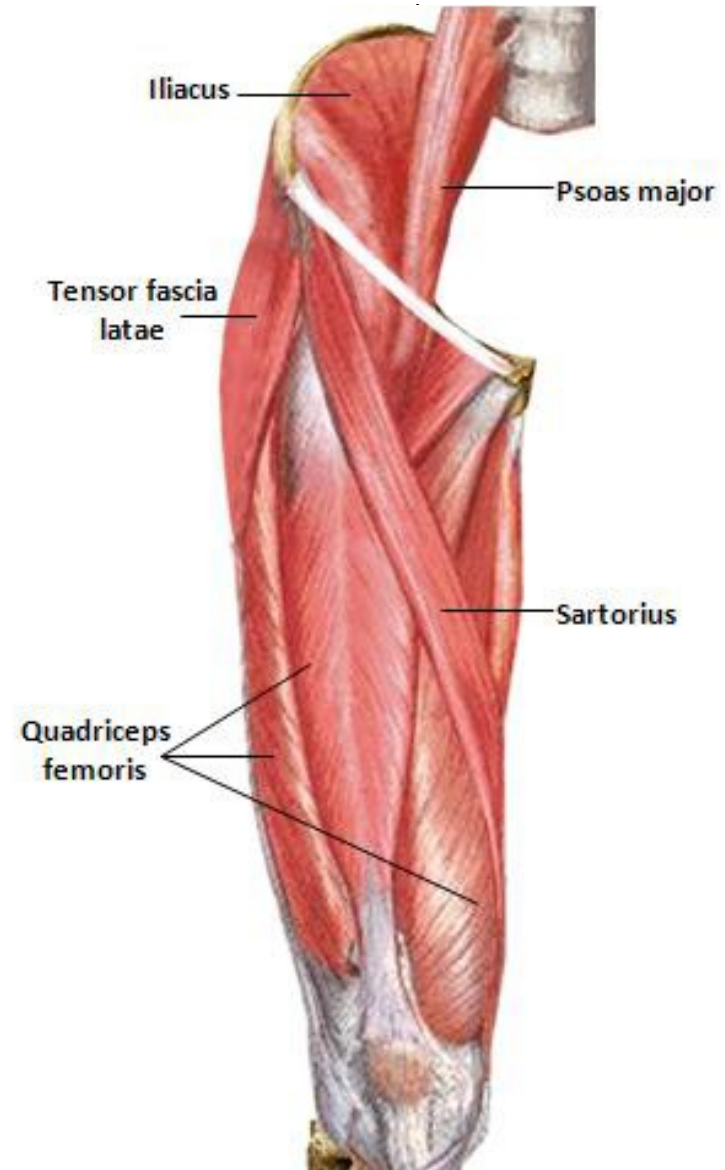
**Three** intermuscular septa (**medial, lateral** and **posterior**)

- pass from the inner surface of the fascia lata to the linea aspera of the femur .
- divide the thigh into 3 compartments:
- each contains a group of muscles associated with its main nerve supply.



## ***Muscles of the front of the thigh (anterior femoral muscles):***

- 1)** Tendons of *psoas major* & *iliacus*. (*Abdomen*)
- 2)** Tensor fasciae latae (*described in gluteal region*).
- 3)** Sartorius.
- 4)** Quadriceps femoris (*rectus femoris and 3 vasti; medialis, lateralis and intermedius*).



# SARTORIUS

**Origin: Anterior superior iliac spine**

**Insertion (SGS):**

**Upper part of medial surface of shaft of the tibia**

**Nerve supply: Femoral nerve**

**Action (tailor leg, crossed leg):**

- - Flexion, abduction and lateral rotation of the thigh at the hip joint
- - Flexion and medial rotation of leg at knee

**Important relations:**

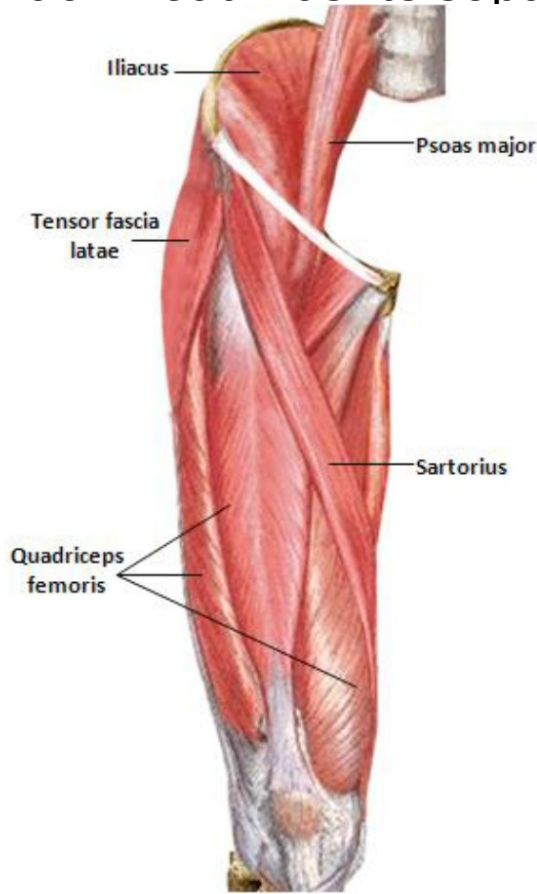
- Forms the lateral boundary of the femoral triangle.
- Forms the roof of the adductor canal.
- Shares gracilis & semitendinosus in the formation of a *triade* that stabilize pelvis on the tibia (**Guy ropes**).





# Quadriceps femoris

- Is the main extensor of the knee joint.
- Is formed of 4 heads (*rectus femoris* & 3 *vasti*; *lateralis*, *medialis* & *intermedius*).
- The 4 heads have different origins & common insertion.
- Inserted into *the patella & the tibial tuberosity*.
- Each head has its separate nerve supply from the femoral nerve.



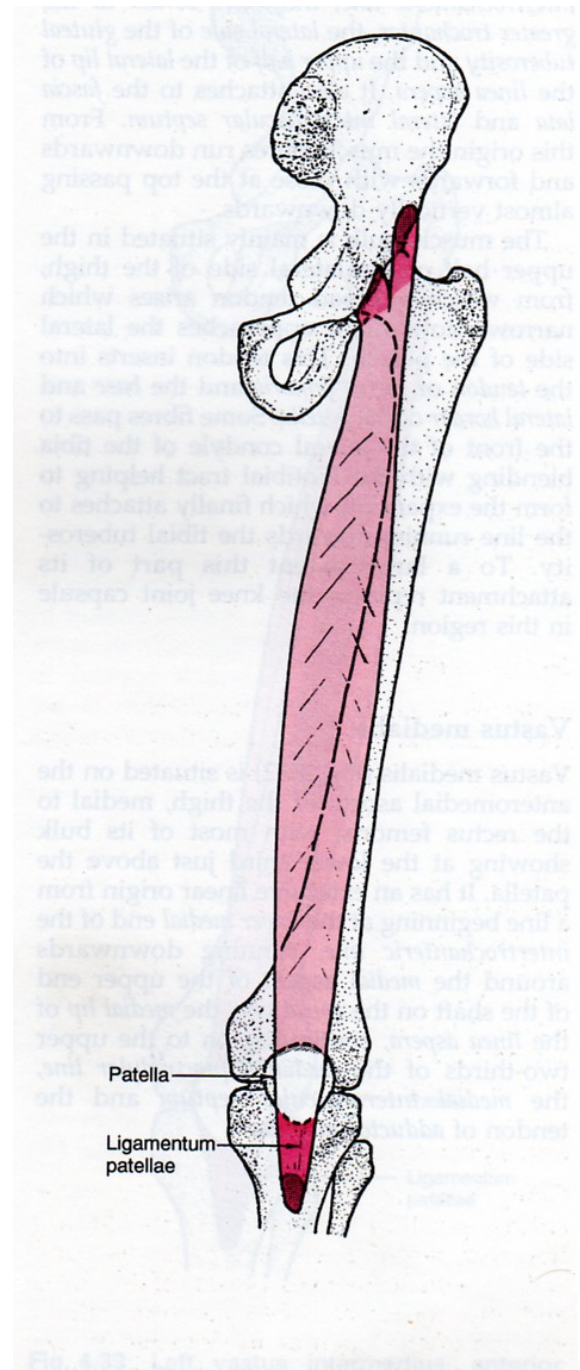


## RECTUS FEMORIS

### Origin:

Straight head: Anterior inferior iliac spine

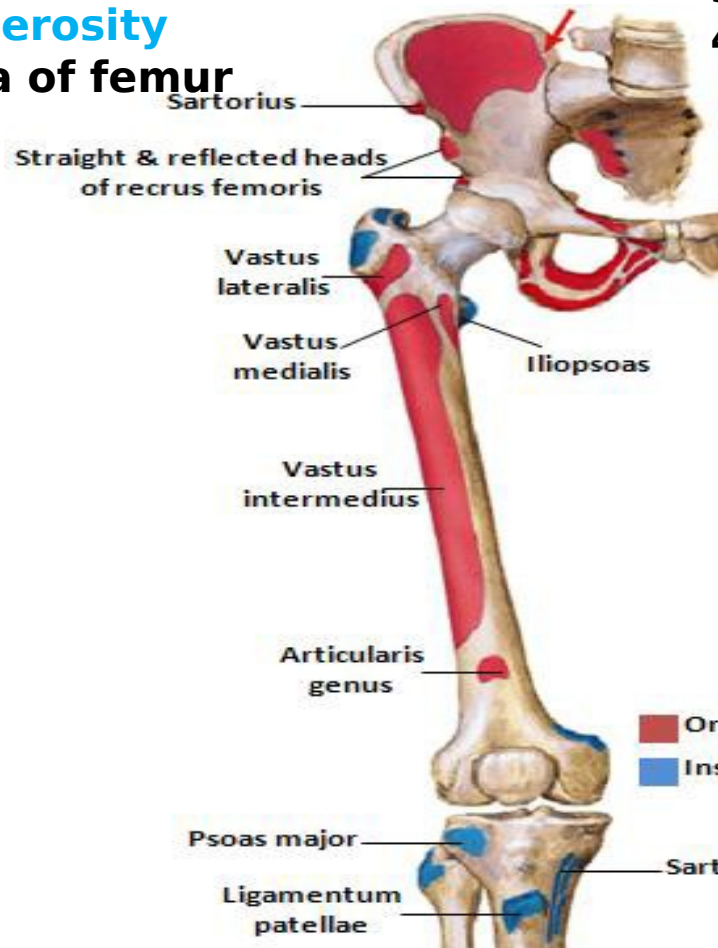
Reflected head: Ilium above the acetabulum



## VASTUS LATERALIS

### Origin:

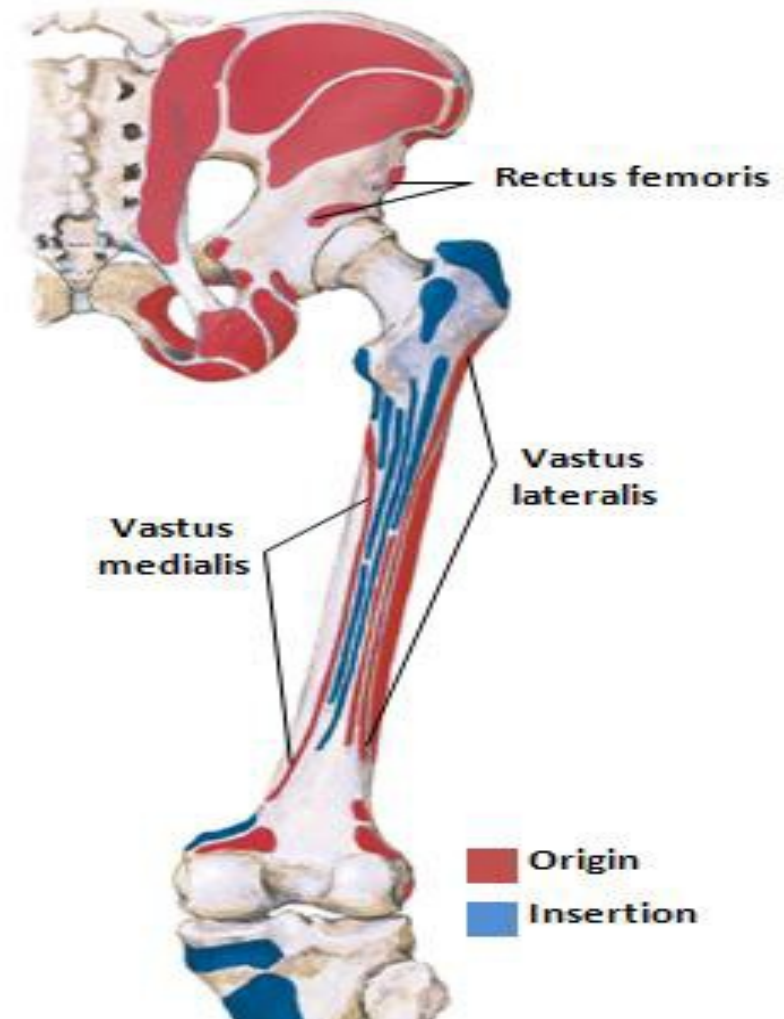
- 1- **upper** part of Intertrochanteric line
- 2- base of **greater** trochanter
- 3- **Gluteal tuberosity**
- 4- linea aspera of femur

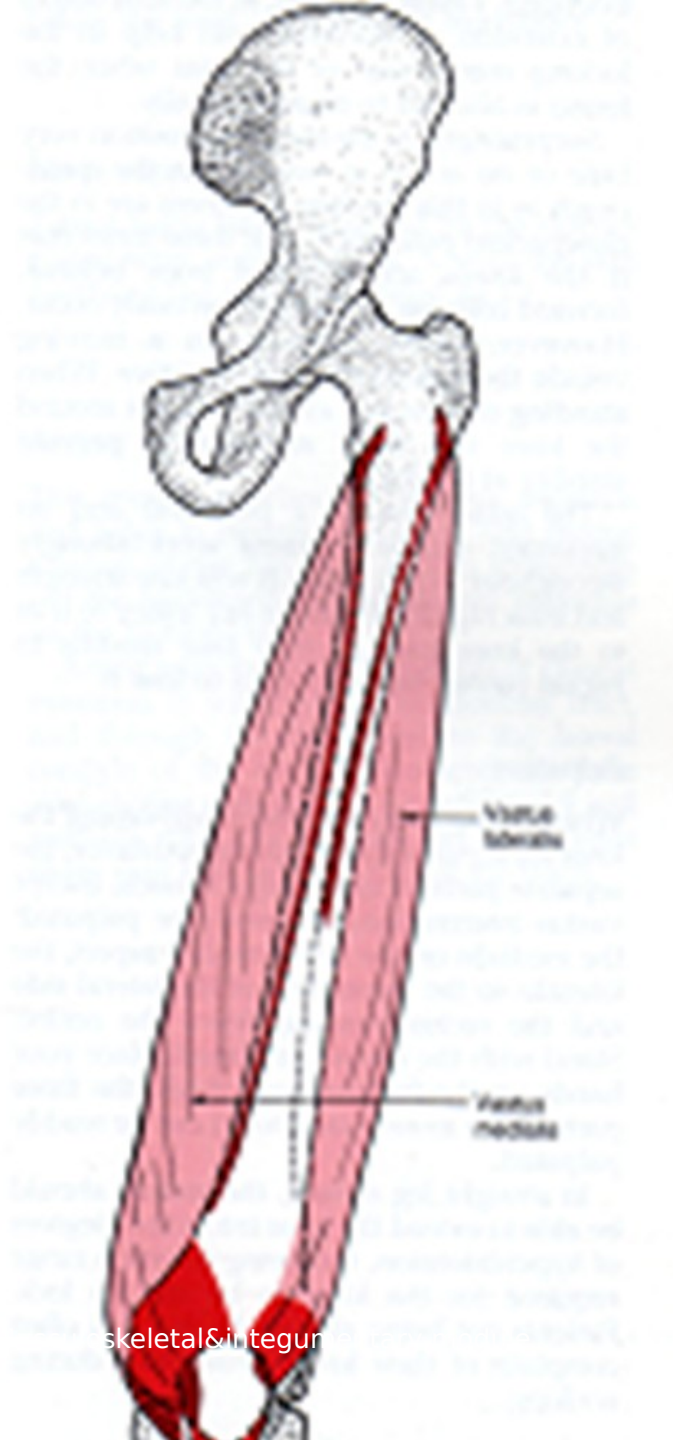


## VASTUS MEDIALIS

### Origin:

- 1- **lower** part of Intertrochanteric line
- 2- base of **lesser** trochanter
- 3- **spiral line**
- 4- linea aspera of femur





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## VASTUS INTERMEDIUS

**Origin:** Upper 2/3 of anterolateral surface of shaft of femur

### Articularis genus

**Origin:**

❖ Lower part of anterior surface of shaft of femur

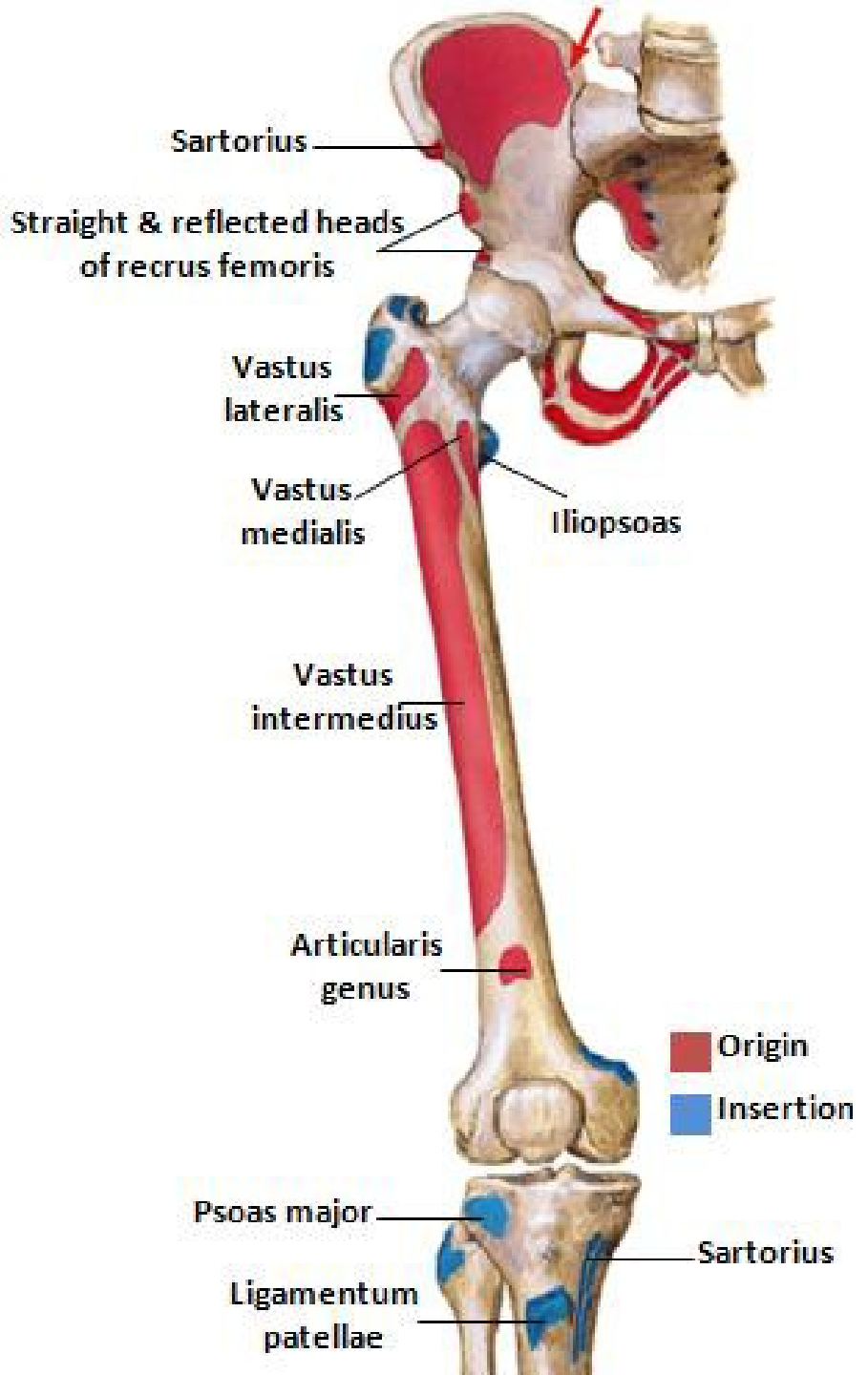
**Insertion:**

❖ Upper part of synovial membrane of knee joint

**Nerve supply:** Femoral nerve

**Action:**

❖ Retraction of upper part of synovial membrane of knee joint during its extension to prevent its trap between femur and patella





# Insertion

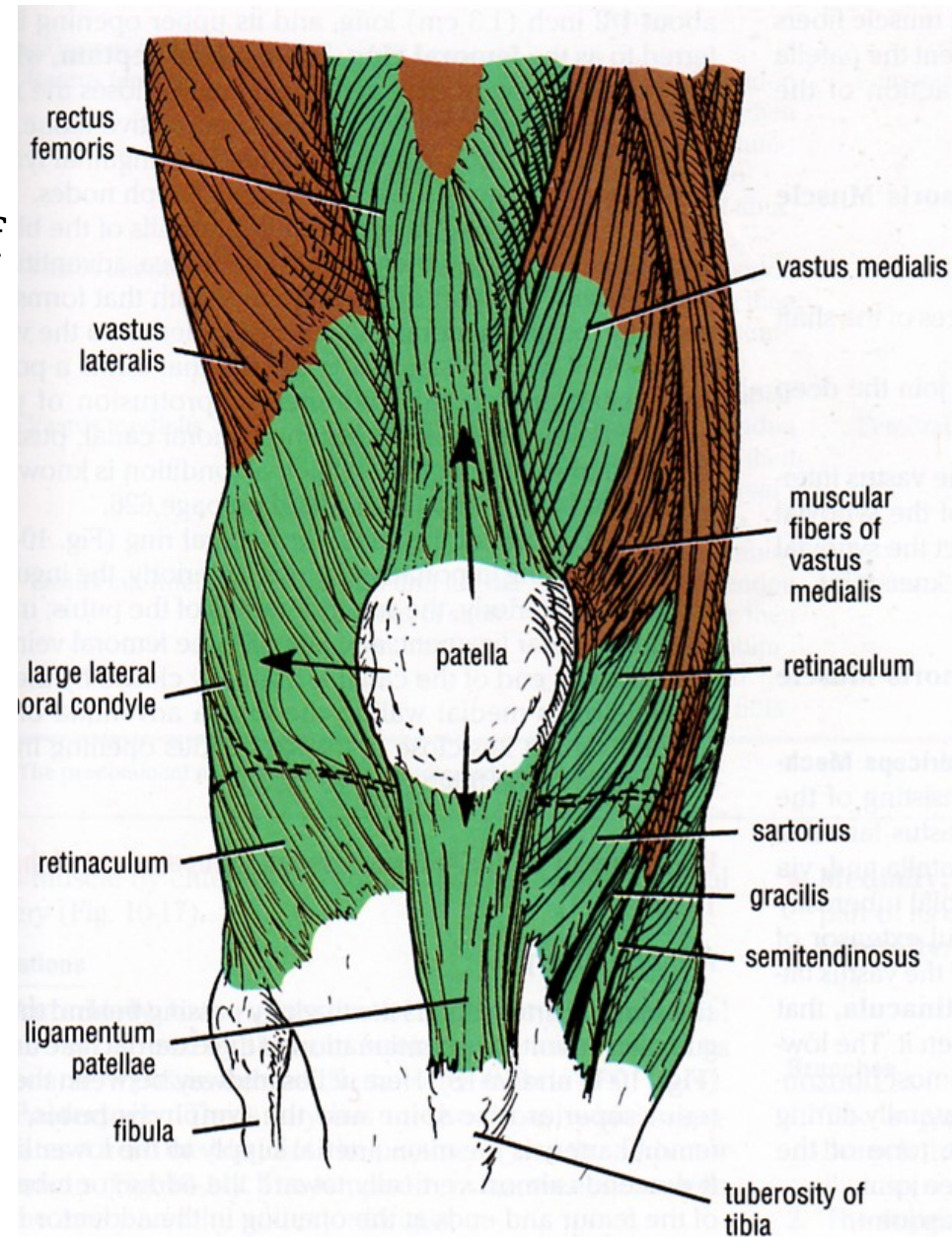
□ The 4 muscles fuse to form the common tendon of quadriceps which is inserted into the base of the patella and its margins.

□ Then **ligamentum patellae** or patellar ligament carries the insertion to the upper smooth part of the tibial tuberosity.

□ **Vastus lateralis** gives a tendinous expansion on the lateral side of the patella blends with the iliotibial tract and known as **lateral patellar retinaculum**.

□ **Vastus medialis** gives a tendinous expansion on the medial side

of the patella which is attached to the medial tibial condyle and is known as **medial patellar**



### **Nerve supply:**

- Each head of quadriceps femoris receives separate nerve supply from the posterior division of the femoral nerve.
- The nerve to rectus femoris gives articular branches to the hip joint, while the nerves to the vasti give articular branches to the knee joint.

### **Action:**

- 1-The 4 heads are the **main extensor** of the knee joint.
- 2-Rectus femoris helps in **hip flexion**.
- 3-The lower fibres of **vastus medialis** are **fleshy and horizontal**, contract during the terminal phase of knee extension, so **prevent lateral displacement of the patella**.
- 4-Both **medial & lateral patellar retinacula** stabilize the knee joint.
- 5-Articularis genus muscle pulls the synovial



## Lecture Quiz



After receiving a cick from a cow in the slaughter house, a butcher developed impairment of both flexion hip and extension knee. Which of the following nerves was likely involved?

- A- Femoral
- B- Inferior gluteal
- C- Obturator
- D- Sciatic
- E- Superior gluteal

## SUGGESTED TEXTBOOKS



**Clinical Anatomy by Regions**, 9th edition,  
2011, Snell RS, Lippincott, Williams and  
Wilkins

**Atlas of Human Anatomy**, 6th edition,  
2014, Netter F.H.

**Gray's Anatomy for students**, 2nd edition,  
2011, Drake R. et al, Churchill & Livingstone

Thank You

The image features the words "Thank You" in a stylized, hand-drawn font. The letters are primarily a dark brown color with a textured, stippled appearance. The 'T' and 'Y' are particularly large and bold. The 'h' and 'o' have a lighter, golden-brown color with a similar texture. The 'a' and 'k' are dark brown with a textured fill. The 'u' is dark brown with two white dots for eyes. The text is surrounded by several spiral patterns in brown and gold, some of which are partially cut off by the edges of the image. The background is a light cream color.